

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

ULTRAVISION TECHNOLOGIES, LLC,  
Plaintiff,

v.

HOLOPHANE EUROPE LIMITED, ACUIY  
BRANDS LIGHTING DE MEXICO DE RL  
DE CV, HOLOPHANE S.A. DE C.V., AND  
ARIZONA (TIANJIN) ELECTRONICS  
PRODUC TRADE COMPANY, LTD.

Defendant.

Case No. 2:19-cv-00291-JRG-RSP  
(LEAD CASE)

**JURY TRIAL DEMANDED**

ULTRAVISION TECHNOLOGIES, LLC,  
Plaintiff,

v.

YAHAM OPTOELECTRONICS CO., LTD.

Defendant.

Case No 2:19-cv-00398-JRG-RSP  
(CONSOLIDATED CASE)

**JURY TRIAL DEMANDED**

ULTRAVISION TECHNOLOGIES, LLC,  
Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD.,

Defendant.

Case No. 2:19-cv-00252-JRG-RSP

**JURY TRIAL DEMANDED**

**PLAINTIFF ULTRAVISION TECHNOLOGIES, LLC'S  
OPENING CLAIM CONSTRUCTION BRIEF**

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Pursuant to P.R. 4-5(a), plaintiff Ultravision Technologies, LLC (“Ultravision”) hereby submits its Opening Claim Construction Brief regarding the asserted claims of U.S. Patent Nos. 8,870,410;<sup>1</sup> 8,870,413; 9,734,738; 9,947,248; and 10,223,946 (collectively, “Patents-in-Suit”). The Patents-in-Suit are attached as Exs. 1-5, respectively.<sup>2</sup>

This Court has already conducted a claim construction hearing and preliminarily construed several terms disputed here. That case, *Ultravision Technologies, LLC v. Lamar Advertising Company, et al.*, C.A. No. 2:16-cv-374 (“the Lamar Case”), reached a settlement shortly after the claim construction hearing and before any final claim construction order. The preliminary constructions from the Lamar Case are attached as Ex. 6. The transcript of the claim construction hearing held on April 26, 2017 in the Lamar Case is attached as Ex. 7.

Defendants in this case repeat several arguments that the Court preliminarily rejected in the Lamar Case. Defendants’ overarching claim construction theory is that every term of degree, primarily the word “substantially,” automatically renders the claims indefinite. But terms of degree, when properly used, as in these claims, are readily understood by persons of ordinary skill in the art.

## **I. BACKGROUND OF THE PATENTS**

The technology underlying the Patents-in-Suit was developed by Ultravision, which is based in Dallas, Texas. Ultravision filed the provisional patent application leading to the Patents-in-Suit on July 30, 2012. All of the Patents-in-Suit are based on the same specification which thus far has resulted in 24 issued patents in this family alone.

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<sup>1</sup> Unless otherwise noted, all citations will be to the ’410 patent.

<sup>2</sup> Ultravision and non-party Samsung Electronics Co., Ltd. (“Samsung”) have agreed that to conserve resources, Samsung shall participate in this claim construction process for the purposes of the ’410 patent only. The ’410 patent is the only patent from this family asserted against Samsung in the -252 action.

The Patents-in-Suit describe an LED lighting apparatus with several advantages. In describing problems in the prior art, they explain that one problem “is that it can be difficult to direct light only onto the surface [] and even more difficult to do so evenly.” Ex. 1 at 2:49-51. “One problem with uneven illumination is that certain parts of the surface [] may be more brightly illuminated than other parts. This creates ‘hot spots’ that may be undesirable.” *Id.* at 2:55-57. The Patents-in-Suit go on to explain that “light [which] does not strike the surface [] is wasted and may create problems (e.g., light pollution), as well as waste illumination that could be used for the surface [].” *Id.* at 2:62-64. The Patents-in-Suit also recognize additional challenges regarding heat dissipation and protecting the LEDs from environmental conditions such as moisture. *Id.* at 2:65-3:1.

To solve these problems, the Patents-in-Suit disclose a lighting assembly illustratively shown in Figure 6A. Structurally, the embodiment shown in FIG. 6A shows a lighting assembly 600 that includes a back panel 602, to which is attached multiple LED assemblies and an optics panel formed by multiple lens panels 604. *Id.* at 6:53-64. In discussing the lens panel more specifically, the Patents-in-Suit disclose a lens panel that may include multiple optical elements in Figure 5A.

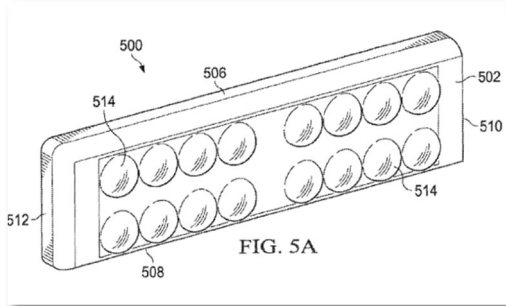
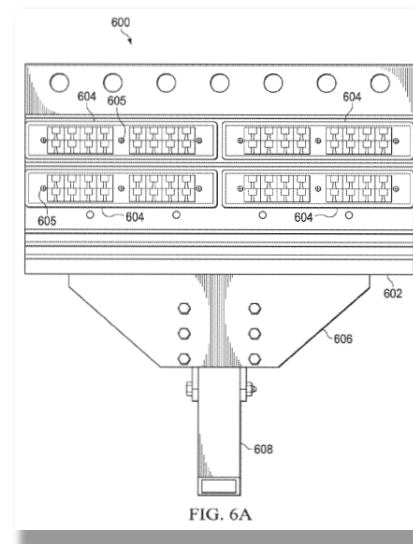


Figure 5A discloses a lens panel 500 that includes multiple optical elements 514. A single optical element 514 may be provided for each LED, or

multiple LEDs, or multiple optical elements may be used over a single LED. *Id.* at 4:64-5:3.

The optical elements 514 are configured to provide several functional advantages of the projected light. First, the light from each LED is projected onto the entire surface of the desired target area (which, as described in an embodiment in the specification, is a billboard). *Id.* at 5:4-9. Therefore, when a single LED fails, the *overall* illumination decreases ever so slightly, but the uniformity of that illumination remains unchanged. *Id.* at 5:19-21. The optical elements are also designed so that the target area is evenly illuminated, and that the area outside the target area “would receive no illumination at all or at least a minimal amount of illumination from the LED 416.” *Id.* at 5:9-14.

## II. LEGAL STANDARDS

The governing legal standards relating to claim construction are described, for example, in the Court’s opinion in *Huawei Techs. Co. v. T-Mobile US, Inc.*, No. 2:16-cv-55, 2017 WL 2190103 (E.D. Tex. May 17, 2017). *See also Seoul Semiconductor Co. v. Nichia Corp.*, 596 F. Supp. 2d 1005 (E.D. Tex. 2009).

Defendants here primarily contend that many terms from the asserted patents are indefinite. Patent claims are presumed valid, including under 35 U.S.C. § 112. *See* 35 U.S.C. § 282. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir.2017). Further, the Federal Circuit has repeatedly held that a term of degree (like “substantially uniform” and the other terms at issue here) is not inherently indefinite. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1370 (Fed. Cir. 2014).<sup>3</sup> As the Supreme Court recognized in *Nautilus*, “absolute precision” in claim

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<sup>3</sup> *See also Sonix Tech.*, 844 F. 3d at 1379 (holding that the term of degree “visually negligible” was not indefinite, given that the “written description...supports the conclusion that a skilled artisan would have understood the term with reasonable certainty[,]” as well as the fact that “[n]o



language is “unattainable.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). *See also Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1335 (Fed. Cir. 2010) (holding that the claim phrase “not interfering substantially” was not indefinite even though the construction “define[d] the term without reference to a precise numerical measurement”); *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 424 F.3d 1374, 1384 (Fed. Cir. 2005) (“[A] patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement.”) (citation omitted).

### III. LEVEL OF SKILL IN THE ART

Ultravision proposes that the person of ordinary skill in the art would have a Bachelor of Science degree in electrical engineering, physics, optics, or its equivalent, with approximately two years of design experience in the field of LED lighting. Additional education would compensate for less experience, and vice-versa. Ex. 8, Dr. Coleman Decl., ¶ 29.

Defendants propose that a person of ordinary skill in the art would have at least a Bbachelor’s degree in physics, engineering, or a related technical field, and at least 3-4 years of

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one involved in either the first or the second reexamination had any apparent difficulty in determining the scope of ‘visually negligible”); *Apple Inc. v. Samsung Elecs. Co.*, 786 F.3d 983, 1002-03 (Fed. Cir. 2015), *rev’d on other grounds*, 137 S. Ct. 429 (2016) (holding that the term “substantially centered” was not indefinite); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1359 (Fed. Cir. 2012) (“This court has repeatedly confirmed that relative terms such as ‘substantially’ do not render patent claims so unclear as to prevent a person of skill in the art from ascertaining the scope of the claim.”); *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1367 (Fed. Cir. 2001) (“[L]ike the term ‘about,’ the term ‘substantially’ is a descriptive term commonly used in patent claims[.]”); *Andrew Corp. v. Gabriel Elecs., Inc.*, 847 F.2d 819, 821 (Fed. Cir. 1988) (holding that terms such as “close to,” “substantially equal” and “closely approximate” are “ubiquitous in patent claims”); *Max Blu Techs., LLC v. Cinedigm Corp.*, No. 2:15-cv-1369-JRG, 2016 WL 3688801, \*28 (E.D. Tex. July 12, 2016) (holding that “[t]erms of degree are not indefinite if the patent provides some objective standard for measuring the degree” and finding that because “the Asserted Patents provide a standard for measuring ‘substantially[,]’” “the meaning of ‘substantially flat and coplanar’ is reasonably certain”).

experience in the field of light emitting diode (LED) devices, or an equivalent advanced education in the field of LED devices. Ex. 9, Josefowicz Decl., ¶ 22.

The two proposed levels of skill are virtually identical except for the number of years of experience in the field of LED lighting devices, and the difference does not impact the analysis.

#### IV. AGREED TERMS

The Parties have agreed to the following constructions:

Term	Construction
Acrylic material	Material containing primarily acrylates
Acrylic material substrate	Substrate containing primarily acrylates

#### V. DISPUTED TERMS

##### A. Substantially Transparent

Term	Ultravision	Defendants
substantially transparent '410 patent, claims 1, 13 '413 patent, claims 5, 11, 18	<i>Plain and ordinary meaning or, in the alternative, “clear”</i>	Indefinite

The claims in which this term appears all relate to the characteristics of the substrate containing the optical elements, such as lenses. For example, claim 1 of the '410 patent requires “a substantially transparent substrate comprising a plurality of optical elements disposed over the plurality of LEDs . . .”. The meaning of the term “substantially transparent” would have been understood to a person of ordinary skill in the art to not be indefinite and should be accorded its plain and ordinary meaning. In the event construction is deemed necessary, Ultravision proposes the synonym “clear.” Defendants’ claim that this term is indefinite is incorrect.

The claims must be read in the context of the specification and the understanding of the

person of ordinary skill in the art at the time the invention was made.<sup>4</sup> The specification describes the substrate on which the lenses are formed as either “transparent” or “substantially transparent.” *See* Ex. 1, Abstract; 1:21-28; 5:26-29. For example, the Abstract states that “[a] substantially transparent substrate is disposed over the plurality of LEDs and configured to direct light from each of the plurality of LEDs of the lighting assembly onto a surface having a predetermined bounded area.” *Id.*, Abstract.

It is often the case that lenses are designed to be as transparent as possible, to avoid wasting light that could otherwise be directed towards the target area. But lenses may be designed with less than maximum transparency, for example, to scatter light. Ex. 8, Coleman Decl., ¶ 33. Diffusion-type lenses can be used to create softer lighting effects, at the expense of less control over the light. *Id.* But, when there is a desire to precisely control the redirection of light, transparent lenses are used. *Id.*

The person of ordinary skill in the art would have understood that the phrase “substantially transparent” as used in the claims refers to the substrate that forms the optical elements being transparent or clear as opposed to diffusing or light scattering. *Id.* ¶ 34. This is consistent with the goals of the invention, which requires the precise control of light to provide for even illumination on a target area. Ex. 1, Abstract. The person of ordinary skill in the art would understand that from an engineering perspective, it is extraordinarily difficult to create an optical element with a complete absence of imperfections, and thus a lens with 100%

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<sup>4</sup> *CryptoPeak Sols., LLC v. Lowe's Home Ctrs.*, No. 2:15-cv-1737-RWS-RSP, 2016 WL 7198705, at \*5 (E.D. Tex. Sept. 9, 2016) (Payne, J.) (“‘[T]his court does not interpret claim terms in a vacuum, devoid of the context of the claim as a whole.’ The relevant inquiry is whether the claim as a whole provides reasonable certainty to one of ordinary skill in the art about the subject matter it covers.”) (quoting *Kyocera Wireless Corp. v. ITC*, 545 F.3d 1340, 1347 (Fed. Cir. 2008)).

transparency is effectively not possible. Ex. 8, ¶ 35. Dr. Josefowicz agreed that nothing is 100% transparent.

As the claim term relates to the entire substrate on which the lenses are formed, rather than just the individual lenses themselves, the person of ordinary skill in the art would also understand that the entire substrate could not be perfectly transparent. For example, there would need to be some sort of mechanism to attach the substrate to the rest of the luminaire, such as a glue or screws, which are not transparent. *Id.* Additionally, the process of injection molding the substrate may leave small surface artifacts, such as parting lines, which may not be transparent. *Id.* In each of these cases, the person of ordinary skill in the art would still consider the substrate to be “substantially transparent.” *Id.*

Ultravision’s proposal is also consistent with the extrinsic evidence. Merriam-Webster’s Collegiate Dictionary (11<sup>th</sup> Ed. 2004) defines “transparent” as “having the property of transmitting light without appreciable scattering so that bodies lying beyond are seen clearly.” Ex. 10. Notably, Webster’s also recognizes that perfect transparency is not possible and thus defines the property as not having “appreciable” scattering, not unlike the claim’s use of the term “substantially” to modify transparent. The Illuminating Engineering Society’s (IES) *The Lighting Handbook*, 10<sup>th</sup> Ed. 2011), which a person of ordinary skill in the art would have been familiar with and would consider useful in the field of lighting (Ex. 8, ¶ 37), states that “[i]f transmissive material does little or no scattering and if the incident and exitant planes of the material are parallel, then rays are offset, but have the same direction. In this case the material is said to be ‘transparent.’” Ex. 11, p. 1.21. The Lighting Handbook also appreciates that a transparent material “does little or no scattering,” again reinforcing that the person of ordinary skill in the art would understand that “substantially transparent” would be understood by a

person of ordinary skill in the art. Ex. 8, ¶¶ 37-38.

Although a person of ordinary skill in the art would have understood the plain meaning of “substantially transparent” and no construction is necessary, Ultravision’s alternative proposal “clear” is also supported by the evidence. A substantially transparent object that does not have appreciable light scattering, such as a window, appears to be clear. Ex. 8, ¶ 38. In the interior lighting industry, the term transparent is defined as “having the property of transmitting light without altering its distribution, so that objects beyond are seen *clearly*.” Ex. 12, Gary Gordon, *Interior Lighting for Designers* (4<sup>th</sup> ed. 2003), at p. 283 (emphasis added). To see through something clearly, the object must be substantially transparent as opposed to opaque.

Defendants argue that because transparency can be measured on a scale of 0% transparent to 100% transparent, and the Patents-in-Suit do not provide a precise point on that scale at which the material becomes “substantially transparent” as claimed, that the term is therefore indefinite. But this is contrary to the knowledge of a person of ordinary skill in the art, the extrinsic evidence, and the weight of the case law. “Substantially transparent” has been construed to mean “allowing light to pass through almost undisturbed, such that one can see through it clearly.” *Bridgelux, Inc. v. Cree, Inc.*, C.A. 9:06-cv-240, 2008 WL 2325623, at \*7 (E.D. Tex. June 3, 2008). In *Bridgelux*, the claim was directed to a light emitting diode chip comprising a “substantially transparent substrate,” and neither party raised any issues related to indefiniteness. Nor is the use of the term of degree “substantially” terminal to the definiteness of the claim, read in light of the specification, the person of ordinary skill in the art would have understood the meaning of the term. This Court’s analysis and construction of a similar claim term in *Max Blu Techs.*, 2016 WL 3688801 is particularly instructive. In *Max Blu Techs.*, the defendant—just like Defendants here—argued “that the word ‘substantially’ [in the claim term

“substantially flat and coplanar”] render[ed] the term indefinite as ‘substantially’ is a term of degree and the Asserted Patents do not provide any guidance for measuring that degree.” *Id.* at \*27. This Court disagreed, holding that “the patents provide[d] sufficient guidance for understanding the degree of flatness and coplanarity in that they describe the technological purpose for having flat and coplanar land tops—for use in flying head applications.” *Id.* at \*27. Here, as in *Max Blu*, the Patents-in-Suit make clear that the object of the invention is to provide for precise light control, meaning that a transparent lens and not a diffusion lens is used. “Substantially” is used in the claim to reflect the realities of manufacturing and designing the claimed substrate. Failure to provide a precise percentage of light transmission does not render the claim indefinite.

Defendants’ expert, Dr. Josefowicz, states that there are “a multitude of approaches one could take to [sic] deciding how much is ‘substantially transparent’ when designing a lighting module.” Ex. 9, Josefowicz Decl., ¶ 31. But when pressed at his deposition, Dr. Josefowicz admitted that the person of ordinary skill in the art would understand that optics have a particular transparency:

THE WITNESS: No. I'm just saying that's one approach. I was answering your question. Typically -- and I speak from my own experience. Typically, one knows the distribution that you want to provide from the luminaire is. So you develop optics for it, and *those optics have a particular transparency*. I mean, typically, that's how it works. If transparency is significantly low, then one would have to understand what it's due to. It could be due to several factors about the optics component.

Ex. 13, Josefowicz Depo. Tr., 73:25-74:9 (emphasis added). Dr. Josefowicz’s also admitted that the person of ordinary skill in the art would understand that the materials used to create lenses have some surface roughness which can scatter light, as well as voids and defects in the material that can cause some scattering. *Id.* at 76:24-77:22.

Understanding the same engineering issues as Dr. Coleman, Dr. Josefowicz nonetheless would require a precise optical efficiency to be claimed in order for the claim to be definite. Dr. Josefowicz also takes the position that the term “transparent,” without “substantially,” would still be indefinite unless a specific optical efficiency was claimed. *Id.* at 87:15-18. Yet, Dr. Josefowicz uses the term “transparent” without hesitation in his own patents. Ex. 1413U.S. Patent No. 8,651,693, 4:18-19 (“*Transparent* polycarbonate, glass or other light transparent material can also be used for this lens design.”) (emphasis added). And, Dr. Josefowicz admitted that no material is 100% transparent. Ex. 13, 118:13-15 (“You said earlier that nothing is 100 percent transparent, correct? A: Yes.”). Dr. Josefowicz’s results-driven opinion that is inconsistent with the admitted optical engineering realities and inconsistent with his usage of the term in his own patent should be rejected.

Because the person of ordinary skill in the art would understand the meaning of “substantially transparent,” which is consistent with the extrinsic evidence, Ultravision’s proposal should be adopted and the term should be accorded its plain meaning.

**B. A First Lens Element and a Second Lens Element Disposed Over the First Lens Element**

Term	Ultravision	Defendants
[each of the plurality of optical elements comprises] a first lens element and a second lens element disposed over the first lens element  '410 patent: 1, 16, 22; '413 patent: 3, 7, 13	<i>Plain and ordinary meaning</i>	“[each of the plurality of optical elements comprises] a lens with two optical surfaces placed or arranged on another lens with two optical surfaces.”

Claim 1 of the '410 patent (Ex.1) requires that “each of the plurality of optical elements comprises a first lens element and a second lens element disposed over the first lens element.”

The context of the claim is clear that the optical element has two “lens elements” on top of each other. Defendants’ attempt to rewrite the claim should be rejected for several reasons. First, Defendants’ construction is nonsensical and likely indefinite. The claim requires an optical element with two lens elements, yet Defendants’ construction requires “a lens with two optical surfaces.” If Defendants stopped here, the construction would at least be logically consistent. But then Defendants introduce the concept of “another lens with two optical surfaces.” Defendants’ construction appears to require *two* lenses, each with *two* optical surfaces, that are placed atop one another. But that is not what the claim term says, and Defendants’ attempt to add a claim limitation where none exists should be rejected.

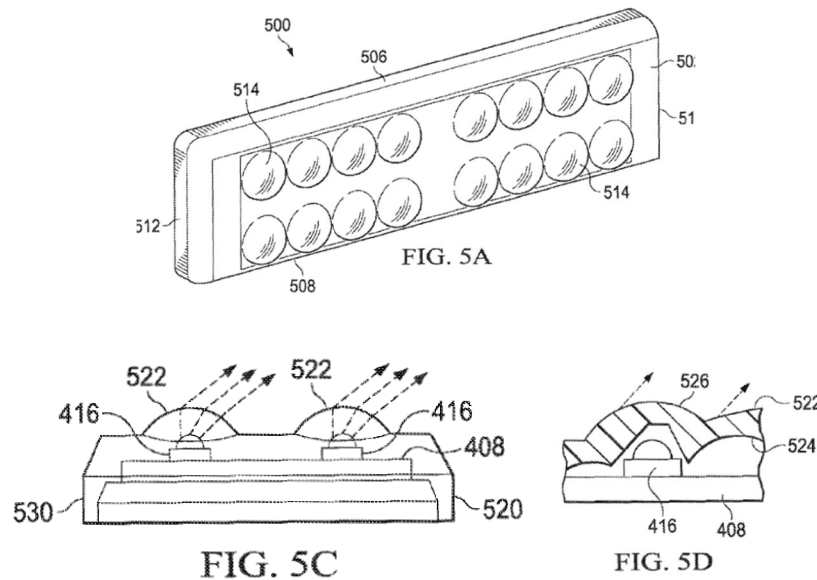
In the Lamar Case, several terms in this patent family relating to “optical element” were preliminarily construed, including optical elements that comprise a “first element . . . a second element . . . and a third element” and “optical elements each including a first portion, a second portion, and a third portion.” Ultravision proposed a plain meaning construction as it does here, while Defendants’ proposed “an assembly of lenses, distinct from a single reflecting prism.” In its preliminary constructions, the Court agreed with Ultravision and rejected Defendants’ construction. Ex. 6, at 2.

Here, as in Lamar, there is no reason to construe this term. The term “optical element” and the corresponding requirement that each optical element have two “lens elements” that are disposed on top of one another, are words that the jury can easily understand without further construction. The claim language itself defines the properties and structure of each “optical element.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005).

Consistent with the plain meaning of the claim language, the specification illustrates several preferred embodiments of optical elements. For example, Figure 5C discloses a sinstrate



520 that has “a plurality of lens structures 522, each associated with one of the LEDs 416.” Ex. 1, 5:29-31. And Figure 5D shows the detail of the lens structure 522, which includes “an interior surface 524 and an exterior surface 526 that shapes and directs the light in the correct pattern.” *Id.* at 5:43-46.



The specification further explains that “[i]n some embodiments, the optical elements 514 may be provided by a single multi-layer optical element system provided by the lens panel 500.” *Id.* at 5:1-3. Again, nothing in the specification supports Defendants’ proposal to read a limitation into the claims that the identified phrases be limited to two different lenses, each with two surfaces that sit atop each other, when that is not what is claimed.

### C. Substantially the Entire Display Surface

Term	Ultravision	Defendants
Substantially the entire display surface (’410 patent, claims 1, 15, 21)	<i>Not indefinite</i>  <i>Plain and ordinary meaning</i>	Indefinite

Continuing their theme of quibbling with terms of degree, Defendants again argue that “substantially the entire display surface” is indefinite. Claim 1 of the ’410 patent (Ex. 1) requires the light to be directed “through the first lens element and the second lens element across the

entire area of the display surface so that each LED evenly illuminates *substantially the entire display surface* with a substantially equal level of illumination from each of the LEDs.”

(emphasis added). Because a person of ordinary skill in the art, reading the claim in the context of the specification, would have understood this term, it is definite. The term should be accorded its plain and ordinary meaning because the jury can readily understand its meaning without construction.

As described by the Patents-in-Suit, “if all other LEDs 416 were switched off except for a single LED 416, the entire surface 102 would be illuminated at the level of illumination provided by the single LED 416.” Ex. 1, 5:6-9. As explained by Dr. Coleman, “a person of ordinary skill in the art would understand that these claims are directed to the requirement that each LED must individually provide even illumination to the entire display surface rather than each LED only providing illumination to a portion of the display surface, or each LED providing greater illumination in some areas of the display surface and less illumination in other areas.” Ex. 8, ¶ 41. The effect of designing the luminaire in this way is that when one LED fails, the overall illumination of the display decreases slightly, but the evenness of the light is not changed. Ex. 1, 5:19-21.

Here, as with “substantially” transparent, the claim uses the phrase “substantially” in recognition of the real-world engineering problems encountered in optics. There may be design tolerances, manufacturing tolerances or imperfections, or installation issues that may cause an insubstantial portion of the display surface, such as the trim on a billboard display, to not be illuminated by every LED. Ex. 8, ¶ 41. But the person of ordinary skill in the art reading the specification would understand what is *not* claimed: an apparatus where each LED illuminates an individual point on the display surface. Such a design would cause a dead spot and an increase

in unevenness in the event one LED fails. The prosecution history informs this interpretation. During prosecution of the '410 patent, the claims were rejected over an obviousness combination of U.S. Publication No. 2004/0004827 to Guest ("Guest") and U.S. Patent No. 7,896,522 to Heller et al. ("Heller"). Ultravision argued that Guest and Heller were not combinable because "Guest teaches producing a uniform light output using multiple reflections (crisscrossing of light beams) while *Heller teaches using separate focused light for illuminating different parts of the output.*" Ex. 15, June 5, 2014 Amendment in U.S. Patent Application Serial No. 13/836,612. The applicant distinguished the precise type of "spot illumination" pattern that is not claimed.

Defendants' expert again attempts to quantify the coverage area with a percentage and argues that the term requires selecting a specific percentage. Ex. 9, Josefowicz Decl., ¶ 44. But, when shown a photograph of a lit road sign at his deposition, he had no issue testifying that he could tell that substantially the entire display surface was evenly lit. Ex. 13, Josefowicz Tr., 167:5-9 (Q: Is substantially the entire display surface lit? A: It looks like it, because the white border is fully lit, yeah."). This admission alone is fatal to Defendants' indefiniteness argument.

Here, again, the situation comports with this Court's analysis in *Max Blu*. Although the specification does not provide a precise amount of display area not illuminated by each LED, it does describe the "technical purpose" for having this feature. *Max Blu Techs.*, 2016 WL 32688801, at \*27. That technical purpose, preventing the display surface from uneven lighting in the event of an LED failure, is consistent with the statements in the specification and the file history. Ultravision's plain and ordinary meaning construction should be adopted.

#### **D. Uniformity Terms**

<b>Term</b>	<b>Ultravision</b>	<b>Defendants</b>
Substantially uniform ('410 patent, claim 10)		Indefinite

Term	Ultravision	Defendants
Substantially equal level of illumination (’410 patent, claims 1, 15, 21)	“does not create noticeable unevenness, such as hot spots and dead spots”	
A uniformity . . . remains substantially unchanged (’248 patent, claim 3)		
the uniformity of light . . . remains substantially the same (’738 patent, claims 19, 20; ’946 patent, claim 12)		

The Court has already preliminarily construed “substantially uniform” and “uniform illumination” to mean “does not create noticeable unevenness, such as hot spots or dead spots.” Ex. 6, p.1. Ultravision proposes that the Court arrived at the proper construction. As recognized by the Court, this construction requires the unevenness to be “noticeable” to someone, and the person of ordinary skill in the art would understand in the context of this technology what is noticeable to an observer. *Id.* at 11:25-12:4. Defendants’ indefiniteness argument should be rejected for a second time.

When considering the indefiniteness of a particular claim, the disputed term must be considered in the context of the overall claim as a whole and not in a vacuum. Ultravision used the term “substantially uniform” in independent claim 10 of the ’410 Patent. Claim 10 is directed to an “optics panel for use in a light emitting diode (LED) lighting assembly for illuminating a billboard” and is generally comprised, in part, of “a plurality of LEDs” and “a plurality of lenses.” Ex. 1 at 9:5–17. The claim also recites “wherein the light intensity from each lens is **substantially uniform** across the entire display surface.” (emphasis added). *Id.* at 9:15–17, 10:60–61.

The context of the claim as a whole provides reasonable certainty to one of ordinary skill in the art about the scope of the invention because it describes in detail the structure used to

reach the desired objective of “substantially uniform” light intensity across a display surface of a billboard. Specifically, the “wherein” clause in which the term “substantially uniform” is used speaks directly to the “light intensity” being described, the origin of the “light intensity” (i.e., “from each lens”), as well as the target and location across which “the light intensity” is being directed (i.e., “the entire display surface” of a billboard). Thus, the language preceding and following the term “substantially uniform” provides important context for how the term is used in the claim.

The specification further informs those skilled in the art about the scope of the invention. First, the specification explains how a person of ordinary skill in the art recognizes when the illumination is not uniform. The specification explains that prior art lighting technology made it difficult to direct light uniformly. *Id.* at 2:49–55. The specification explains that this uneven illumination creates “hot spots” (i.e., bright spots) that are undesirable:

One problem with uneven illumination is that certain parts of the surface 102 may be more brightly illuminated than other parts. *This creates “hot spots” that may be undesirable.* Attempting to evenly illuminate the surface 102 may cause light to be directed past the edges 112, 114, 116, and 118 as attempts are made to balance out hot spots in particular areas.

*Id.* at 2:55–61 (emphasis added). The specification further contrasts these “hot spots” with “dead spots” (i.e., dark spots) on the billboard surface: “[t]he minimum distance is designed such that overlapping light from adjacent LEDs does not create interference patterns and result in dead spots on the surface.” *Id.* at 5:33–35.

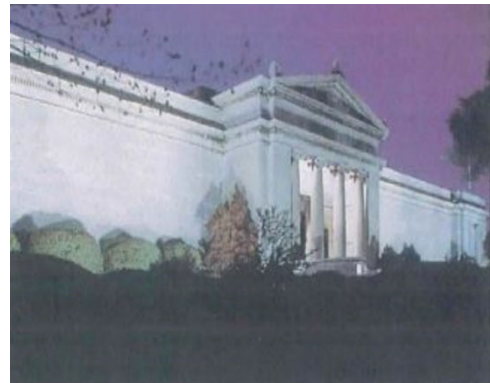
Second, the specification explains how the LED light assembly uniformly illuminates a billboard to avoid these hot spots and dead spots. The specification describes properly directing the illumination to “minimiz[e] any noticeable unevenness in the overall illumination, even if one of the remaining LEDs 416 malfunctions” to realize the benefit of overlapping and

redundant coverage on the billboard. *Id.* at 6:21–23. And the specification describes and illustrates multiple embodiments of optical elements that are specifically designed to create the “substantially uniform” light intensity on the billboard surface. *See, e.g., id.* at 5:37–38 (“the lens structure is designed to ‘direct’ the light from an edge of the surface to cover the entire surface”); Figures 5A–5D and 8D–8J. The specification further explains that light from the LEDs is directed by these optical elements “so that each LED illuminates substantially the entire surface with a *substantially equal level of illumination* per LED.” *Id.* at 1:27–29 (emphasis added). Taken together, these portions of the specification inform a person of ordinary skill in the art about the scope of the invention with reasonable certainty.

Therefore, the claims including the term “substantially uniform” are not indefinite because when “viewed in light of the specification and prosecution history, [the claim(s)] inform[(s)] those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2129. This Court’s analysis and construction of a similar claim term in *Max Blu Techs.*, 2016 WL 3688801 is particularly instructive. In *Max Blu Techs.*, the defendant—just like Defendants here—argued “that the word ‘substantially’ [in the claim term ‘substantially flat and coplanar’] render[ed] the term indefinite as ‘substantially’ is a term of degree and the Asserted Patents do not provide any guidance for measuring that degree.” *Id.* at \*27. This Court disagreed, holding that “the patents provide[d] sufficient guidance for understanding the degree of flatness and coplanarity in that they describe the technological purpose for having flat and coplanar land tops—for use in flying head applications.” *Id.* This is precisely the type and level of guidance provided in the ’410 Patent for the term “substantially uniform.” The specification of the ’410 Patent explains the purpose of having light uniformity—it prevents “hot spots” (i.e., bright spots) that cause limited visibility and legibility of the

advertising content (Ex. 1 at 2:49–61) and “minimiz[es] any noticeable unevenness in the overall illumination” (*id.* at 6:21–23).

Extrinsic evidence also supports Ultravision’s position that this term is not indefinite. For example, IES Publication RP-33-99, *Lighting for Exterior Environments* (1999), Ex. 16, describes that “[i]t is often necessary to illuminate large vertical displays uniformly” and that “the lighting should provide even illumination over the entire surface.” *Id.* at p. 34. It advises that one should “[c]arefully select floodlight luminaires which will not create ‘hot spots’ on the display.” *Id.* And it even provides an example of the front façade of the Cleveland Art Museum as “an example of good vertical surface illumination that is uniform over the entire façade.” *Id.* at 35. The extrinsic evidence shows that there is commonly understood criteria in the art for determining the uniformity of the light intensity for LED lighting in the context of noticeable unevenness, such as hot spots or dead spots on the surface that is being illuminated. Ex. 8, Coleman Decl., ¶ 53. Therefore, this term is not indefinite.



Certain asserted claims here, not at issue in the Lamar Case, require that the uniformity of light remains “substantially the same” or “substantially unchanged.” The Parties agree that the effect of these claim phrases is the same as “substantially uniform” and that they should be construed together.

**E. Substantially no Illumination**

<b>Term</b>	<b>Ultravision</b>	<b>Defendants</b>
Substantially no illumination  '410 patent, claims 7, 12, 19, and 25 '413 patent, claims 2, 17	<i>plain and ordinary meaning</i>	Indefinite
Areas beyond edges . . . receive substantially no illumination  '410 patent, claims 7, 12, 19, 25		

“Substantially no illumination” was preliminarily construed in the Lamar Case to mean “no illumination.” The Court has already rejected the indefiniteness of this term, and should do so again. However, because the previous preliminary construction removed the term “substantially” from the claim, and because “substantially no illumination” is readily understood by the jury without additional construction, Ultravision proposes a plain meaning construction.

“Substantially no illumination” is used in dependent claims in the context of defining areas where light is not desirable, generally referred to as light trespass or light pollution. For example, claim 7 of the '410 patent states that “areas beyond edges of the display surface receive substantially no illumination from each of the LEDs.” Ex. 1, claim 7. Each usage in the claims is related to areas beyond the edges of the display surface, where incident light is not desirable.

The specification provides guidance to a person of ordinary skill in the art as to the meaning of these terms. For example, the Patents-in-Suit discuss problems associated with light being directed outside of the target area. They describe that “light that does not strike the surface 102 is wasted and may create problems (e.g., light pollution), as well as waste illumination that could be used for the surface 102.” Ex. 1, 2:61-64. The person of ordinary skill in the art would understand that illumination areas beyond the display surface are referred to as “light trespass,”



which causes light pollution, and occurs when an “[a]djacent property receives unwanted light,” such as when light is not properly or adequately “[c]ontain[ed] [] within the design area.” Ex. 16, Illuminating Engineering Society, RP-33-99, *Lighting for Exterior Environments* (1999), at p. 11. The Illumination Engineering Society has defined obtrusive light as “unwanted light, which, because of quantitative, directional, or spectral attributes in a given context, gives rise to annoyance, discomfort, distraction, or a reduction in the ability to see essential information.” *Id.* at 47. Light trespass is a known problem in optical engineering with severe consequences that impact quality of life. Ex. 8, ¶¶ 57-63. Thus, one of ordinary skill would understand in view of the desirability of avoiding light trespass by prevent any light other than an insubstantial amount from illuminating areas beyond the edges of a display surface. *Id.* ¶¶ 63-64.

Defendants repeat their position that “substantially” renders the claim indefinite. But again, when the patents provide the “technical purpose” for having this feature (*Max Blu Techs.*, 2016 WL 3688801, at \*27), the person of ordinary skill in the art would understand the claim to be definite. Here, a single photon of light that spills outside the display surface would be understood by a person of ordinary skill in the art to not be “light trespass,” and the claimed optic would still meet the claims. Ex. 8, ¶ 64. The plain meaning of “substantially no illumination” should be adopted.

#### F. Minimal/Minimum Illumination

Term	Ultravision	Defendants
Minimal amount of illumination  '413 patent, claims 6, 16	“Compliant with IES recommended light trespass guidelines.”	Indefinite

Term	Ultravision	Defendants
Areas beyond edges . . . receive minimum illumination  '738 patent, claim 19		

These terms, like “substantially no illumination,” refer to the amount of light that spills outside the desired display area. For example, claim 6 of the ’413 patent (Ex. 2) states that “areas beyond edges of the display surface receive minimal amount of illumination from each of the LEDs.” The Court had previously preliminarily construed these terms (appearing in other patents and claims in this family) to be indefinite. Ex. 6, at 2. There, however, Ultravision had advanced a construction centered around the concept of light pollution, rather than light trespass, due to the claims in that action being limited to billboard lights only. When considering the broader lighting industry, as well as the knowledge of a person of ordinary skill in the art which would include IES guidelines, Ultravision’s proposed construction renders the claim definite. Ex. 8, ¶ 68.

As discussed above, the person of ordinary skill in the art would be familiar with the desirability of providing illumination only on the desired surface, and not beyond its edges. Ex. 1, 2:61-64. While the “substantially no illumination” term is fairly restrictive, the claims requiring only that a “minimal amount of illumination” is provided beyond the edges of the display surface provides somewhat more leeway as long as light trespass is avoided. Ex. 8, ¶ 68.

Various organizations and industry groups have devoted significant resources to the issue of light trespass, and developed industry-recognized guidelines regarding the amount of light trespass that is permissible under various circumstances. *Id.* ¶ 70. One of the most recognized groups is the Illuminating Engineering Society, or IES. The IES publishes *The Lighting Handbook*, which is a reference that the person of ordinary skill in the art would have been

familiar. *Id.* In addition to *The Lighting Handbook*, the IES has also issued IES Publication TM-11-00, *Light Trespass: Research, Results, and Recommendations* (2000) (Ex. 17). These guidelines recognize that different light trespass requirements apply to different areas, for example, dense urban areas that already have high levels of light can absorb higher levels of light trespass than national parks. Ex. 8, ¶ 71. The IES guidelines define four environmental zones:

E1. Areas with intrinsically dark landscapes. Examples are national parks, areas of outstanding natural beauty, or residential areas where inhabitants have expressed a strong desire for strict limitations of light trespass.

E2. Areas of low ambient brightness. These may be suburban and rural residential areas. Roadways may be lighted to typical residential standards.

E3. Areas of medium ambient brightness. These will generally be urban residential areas. Roadway lighting will normally be to traffic route standards.

E4. Areas of high ambient brightness. Normally this category will include dense urban areas with mixed residential and commercial use with a high level of nighttime activity.

Ex. 17, p. 6. These guidelines also recognize that different levels of light trespass may be appropriate at different times of day/night. The guidelines also provide the following “recommended light trespass limitations,” measured in Lux:

Environmental Zone	Pre-Curfew Limitations*	Post-Curfew Limitations*
E1	1.0 (0.10)	0.0 (0.00)**
E2	3.0 (0.30)	1.0 (0.10)
E3	8.0 (0.80)	3.0 (0.30)
E4	15.0 (1.50)	6.0 (0.60)

*Id.*, p. 7; Ex. 8 ¶ 72. These guidelines are a commonly understood standard or criteria in the art for determining the minimum illumination beyond edges of the billboard for LED lighting in the context of avoiding light pollution in the form of light trespass.

With the knowledge that the person of ordinary skill in the art would understand that the

IES guidelines provide recommended illuminance levels for light trespass (of which light pollution is a type), the specification of the Patents-in-Suit also provides sufficient guidance for understanding these claim terms. The '410 patent describes that “the rectangular target area of the surface 102 would be evenly illuminated by the LED 416, while areas beyond the edges 112, 114, 116, and 118 would receive no illumination at all or at least a minimal amount of illumination from the LED 416.” Ex. 1, 5:10-14. “[L]ight that does not strike the surface 102 is wasted and may create problems (e.g., light pollution), as well as waste illumination that could be used for the surface 102.” Ex. 1, 2:61-64. The person of ordinary skill in the art would have understood that the “wasted light” problem described in the specification refers to light trespass. Ex. 8, ¶¶ 69, 70. As this evidence was not previously before the Court, and the Court’s indefiniteness ruling was made in the context of billboard-only claims in which light pollution (not light trespass) was the only enumerated problem, Ultravision respectfully requests the Court construe this term to mean “compliant with IES recommended light trespass guidelines.”

#### **G. Heat Sink**

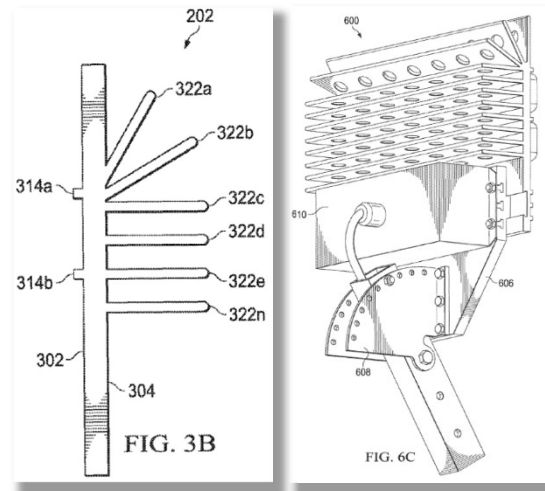
<b>Term</b>	<b>Ultravision</b>	<b>Defendants</b>
[optics panel is configured to be attached to] a heat sink comprising a power supply enclosure disposed on the heat sink  '410 patent, claim 11 '413 patent, claim 11	<i>Not indefinite, plain and ordinary meaning</i>	“[optics panel is configured to be attached to] a structure for increasing heat dissipation from the optics panel on which a power supply enclosure is placed or arranged”  Or  Indefinite

This claim phrase appears in the context of the optics panel being “configured to be attached to a heat sink comprising a power supply enclosure disposed on the heat sink.”

Defendants attempt to define “heat sink” as “a structure for increasing heat dissipation from the

optics panel.” Because the claim does not specifically require the heat sink to dissipate heat *from the optics panel*, this re-writing of the claim should be rejected. For example, the heat sink may dissipate heat from the power supply that is disposed on it. Ex. 8, ¶ 76.

Two figures from the specification are informative. First, Figure 3B discloses that the back surface of the light panel 304 may be configured with a heat sink provided by fins 322 (Ex. 1, 3:64-67). And Figure 6C discloses a power supply enclosure 610 mounted to the heat sink.



Because this phrase is readily understandable to the person of ordinary skill in the art, it is not indefinite. And because Defendant’s proposed construction adds a specific requirement that the heat sink dissipates heat from the optics panel, when it could also dissipate heat from the power supply, this construction must be rejected.

Dr. Josefowicz testified that the heat sink may dissipate heat from both the optics panel and the power supply in the embodiments of the Patents-in-Suit. 6, Josefowicz Tr., 192:22-24; 194:12-15. When asked why Defendants included the limitation that the heatsink dissipates heat from the optics panel but not the power supply, he admitted that, according to him, one of ordinary skill in the art would not use the term “optics panel” to include heat-generating LEDs. *Id.* at 190:21-191:11.

There is no dispute that the heatsink in the embodiments of the patents dissipate heat from the heat-generating elements of the panels: the LED’s and the power supply. Defendants have identified no need to specify in this construction which components have their heat

dissipated by the heat sink except to manufacture a non-infringement argument. Since Defendants’ construction seeks only to introduce an ambiguity and not to clarify claim scope for the jury, its construction should be rejected.

#### H. Preambles

Term	Ultravision	Defendants
An optics panel for use in a light emitting diode (LED) lighting assembly comprising  '410 patent, claims 1, 15, 21 '413 patent, claim 16	<i>These preambles are not limiting</i>  <i>plain and ordinary meaning</i>	Preambles limiting
An optics panel for use in a light emitting diode (LED) lighting assembly for illuminating a billboard that has a display surface extending between outer edges of the billboard, the optics panel comprising  '410 patent, claim 10 '413 patent, claims 1, 5, 11,		

As a general rule, preamble language is not treated as limiting. *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1347 (Fed. Cir. 2012). The preamble does not limit the claim where a patentee “defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.” *Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1328 (Fed. Cir. 2019). “[T]he rule against giving invention-defining effect to intended-use preamble language reflects a longstanding substantive aspect of the patent statute—specifically, the ‘well settled’ fundamental principle ‘that the recitation of a new intended use for an old product does not make a claim to that old product patentable.’” *Id.* (citations omitted). Neither of these preambles are limiting because the claims each recite a

structurally complete invention without the need for the preamble.

The first of the disputed preambles simply recites an “optics panel for use in a light emitting diode (LED) lighting assembly.” Taking claim 1 of the ’410 patent as an example, the claim then goes on to require a plurality of LEDs and a substantially transparent substrate containing optical elements disposed over the LEDs. Ex. 1, claim 1. The claim does require that the optical elements are configured to direct light “from each of the plurality of LEDs of the lighting assembly onto a display surface.” But the “lighting assembly” recited in the claim is not a claimed element of the invention. The LEDs and optical elements are what is claimed, and the preamble provides no antecedent basis for the *claimed* invention.

The second preamble recites “[a]n optics panel for use in a light emitting diode (LED) lighting assembly for illuminating a billboard that has a display surface extending between outer edges of the billboard, the optics panel comprising . . .” *Id.* at 9:5-9. Here, not only is the “optics panel” defined as a structurally complete invention in the body of each claim, the preamble includes the statement of intended use “for illuminating a billboard . . .”. But the claims themselves are not limited to use on a billboard. And the only antecedent basis that the claims find in the preamble is the term “display surface” (which is subject to a disputed construction, below). Defendants attempt to create a limiting preamble because it would limit the claims to billboard lights only should be rejected.<sup>5</sup>

If the preamble provides antecedent basis for a term in the claim, it may be limiting.

*Catalina Mktg. Int’l Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). “[N]ot

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<sup>5</sup> Ultravision does not dispute that Claim 10 of the ’410 patent, which specifically recites that the light from each lens is directed across the entire display surface of the billboard, is limited to billboard lighting products only. But, as the preamble still merely only defines an intended use, Ultravision maintains that the preamble is not limiting.

every preamble reference to additional structure is limiting, even when the structure is noted in the specification—even, indeed, when the structure is ‘underscored as important by the specification.’” *Arctic Cat*, 919 F.3d at 1329 (quoting *Catalina*, 289 F.3d at 808). Here, the additional reference to a lighting assembly “for illuminating a billboard . . .” provides no additional structure, and merely states a non-limiting intended use. The only antecedent basis found in the preamble is the term “display surface,” which is not a part of the claimed invention. While the claimed invention is an apparatus for illuminating a display surface, the display surface is not itself part of the claimed invention. Defendants, for example, are accused of selling, offering to sell, and importing lighting products into the United States that are used for illuminating display surfaces, but do not (to Ultravision’s knowledge) sell display surfaces themselves. Because the claims themselves define structurally complete inventions and do not provide antecedent basis for the *claimed* invention, the preambles do not limit the claims.

#### I. Area Terms

Term	Ultravision	Defendants
Area	<i>plain and ordinary meaning</i>	“sign” / “rectangular sign”
Rectangular area		
Rectangular region		

These three terms and the “display surface” term below represent Defendants’ attempt to limit all claims of these patents to billboard lighting applications. Because this is an improperly narrow reading of the claims that limit them to only the disclosed embodiments, such an interpretation would be error.

Claim 1 of the ’946 patent recites that the light assembly is “configured to direct light from the LEDs towards an area in a manner that does not create hot spots or result in dead spots.” Ex. 5, 10:11-15. The specification states that in one embodiment, there is a “rectangular target area.” *Id.* at 6:30-34. The exemplary embodiments in the specification generally relate to



a light for illuminating a billboard, and the specification states that “[i]t is understood that various standard configurations of the lighting assembly 110 may be developed for various billboard and/or other externally illuminated signs . . .”. *Id.* at 8:3-8. But these statements of intended use, unless specifically claimed, do not limit the invention in their entirety. Many embodiments are described without reference to billboards or signs at all. *See, e.g., id.*, 8:52-9:58; FIGs 7A-B, 8A-8J, 9.

#### J. Display Surface

Term	Ultravision	Defendants
Display surface  '410 patent, claims 1, 7, 10, 12, 14, 15, 19, 20, 21, 25, 26  '413 patent, claims 1, 2, 4, 5, 6, 10, 11, 12, 16, 17	<i>plain and ordinary meaning</i>	“sign surface”

The plain language of the claims themselves compels a plain meaning construction of “display surface,” and Defendants’ limiting construction should be rejected. The claims require the direction of light onto a “display surface,” which *in certain instances* can be part of a billboard. *Compare* ’410 patent, claim 1 (“configured to direct light from each of the plurality of LEDs of the lighting assembly onto a display surface external to the optics panel”) *with* claim 10 (“the light from each lens is directed across the entire display surface *of the billboard*”). In short, when the patentee wanted to claim a billboard-only application, it chose to do so. The plain meaning of the term “display surface” is a surface that is to be displayed, and to narrow the claims beyond that is error. Even if the specification only discloses a single embodiment, the features and functions of that embodiment should not be read into the claims. *Continental Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (expressly rejecting that the

claims of the patent must be construed as being limited to a single embodiment).<sup>6</sup> Even assuming there was only a single disclosed embodiment related to a billboard light (there is not), the claim language controls. Re-drafting the “display surface” language in the claim to be a “sign surface” should be rejected.

#### K. Predetermined Bounded Area

Term	Ultravision	Defendants
Predetermined bounded area '410 patent, claims 1, 21	<i>plain and ordinary meaning</i>	“a bounded region that exists independent of light from the claimed LEDs”

As a “predetermined bounded area” is readily understandable to a jury, the plain and ordinary meaning applies. Defendants’ argument that the predetermined bounded area must exist “independent” of the light from the LEDs is unclear and duplicative. If Defendants are arguing that there must be some border around the “predetermined bounded area” when the claimed light is switched off, that is not supported by any of the intrinsic evidence.

Claim 1 of the '410 patent requires that the light is directed onto a display surface, “the display surface having a predetermined bounded area,” . . . “wherein the light from each of the LEDs is directed through the first lens element and the second lens element across the entire area of the display surface . . .” Ex. 1, 8:37-50. In order to measure the evenness of the light that strikes the display surface, it obviously must have some boundaries. But the boundaries do not need to exist “independent” from the light emitted by the claimed LEDs. Take, for example, a streetlight used on a highway. There is a portion of the highway that is the “display surface” and it includes a “predetermined bounded area” that is lit evenly. But during the day when the

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<sup>6</sup> Additionally, references in the patent to “the present invention” or “this invention” is not always limiting, such as here where portions of the intrinsic evidence do not support applying that limitation to the entire patent. *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1136-37 (Fed. Cir. 2011).

streetlight is off, there is likely not going to be anything on the highway that indicates the boundary of the incident light from that streetlight. The “predetermined bounded area” exists in the claims merely to define the area that is lit evenly by the claimed invention.

#### **L. Desired Uniformity Ratio**

<b>Term</b>	<b>Ultravision</b>	<b>Defendants</b>
Desired uniformity ratio '410 patent, claim 4	<i>plain and ordinary meaning</i>	Indefinite

Claim 4 of the '410 patent states that “the illumination is provided at a desired uniformity ratio of average illumination to minimum illumination.” Ex. 1, 8:55-57. Claim 4 depends from claim 3, which states that “the illumination for each LED has a particular illumination profile.” *Id.* at 8:53-55. Defendants claim that this term is indefinite because the patent “fails to provide sufficient factors, tests or other objective indicators that would allow a POSITA to determine whether a uniformity ratio is ‘desired.’” Ex. 9, Josefowicz Decl., ¶ 74. Claim 3 requires that each LED has a particular illumination profile, claim 4 requires that the desired uniformity profile is expressed in a particular way, and claim 5 specifies that the uniformity ratio is 3:1. It is clear from the context of the claims that the “desired uniformity ratio” is the uniformity ratio desired by the designer of the apparatus. Ex. 8, ¶ 84. The designer would understand that manufacturers provide information on how the apparatuses should be installed, and that the ratio is that which the lighting apparatus is designed to provide when installed and used according to the manufacturer’s instructions, guidelines, and/or recommendations. *Id.* Therefore, claiming a “desired” uniformity ratio is not indefinite because whether illumination is provided at a desired uniformity ratio can be determined with reasonable certainty. *See id.*

#### **VI. CONCLUSION**

For the reasons stated above, Ultravision respectfully requests the Court adopt its proposed constructions.

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Respectfully submitted

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on July 21, 2020, a true and correct copy of the above and foregoing document has been served on counsel of record via the Court's CM/ECF system per Local Rule CV-5(a)(3).

/s/ Alfred R. Fabricant

Alfred R. Fabricant